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ABSTRACT

The difference between acquiring knowledge of a word's meaning and knowing a word well enough for it to aid in the comprehension of a text is investigated by reviewing the most recent findings in the field of vocabulary acquisition. The assumption that vocabulary items are learned through context when the meaning of unknown words can be gleaned from contextual clues is questioned. Even when comprehension of a text is achieved by way of contextual clues the new vocabulary encountered has not necessarily been learned. The vocabulary has been understood in the context of that reading passage, but those same words, if presented out of context, may not be understood by the student. Among the pedagogical implications of depth of processing and its emphasis on the importance of semantic stimuli in vocabulary learning, is that students should be encouraged to develop their own individual learning strategies that allow them not only to retain the vocabulary but to retrieve it. Mnemonic devices, such as the keyword method, help students to develop a deeper understanding of the vocabulary. (DJD)

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VOCABULARY ACQUISITION: NEW FINDINGS

Paper Presented at the Annual Meeting of the Teachers of English to Speakers of Other Languages (23rd, San Antonio, TX, March 7-11, 1989).

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The purpose of this paper is to present the latest findings in vocabulary acquisition research. Much of that research was done on native speakers, but it is largely applicable to the field of ESL. In brief, research seems to negate the assumption that most learning and retention of vocabulary occur simply through context as a part of the reading process. In fact, in light of memory research, it seems emphasis should be on analyzing the means by which vocabulary material is processed for retention. While this paper is, for the most part, theoretical in scope, its conclusion suggests certain practical applications and considerations which have relevance to many age groups and to native and non-native speakers.

How vocabulary is acquired by non-native speakers has been a question for many years. The unwritten assumption was that vocabulary was acquired as a by-product of the reading process. Then at the 1987 Chicago TESOL convention, a symposium on second language vocabulary acquisition debunked that assumption. Its speakers had found that the idea of learning vocabulary through context is not as sufficient as most have assumed it to be. Briefly, again, the assumption is that learning lexical items through context occurs when the meaning of an unknown word can be gleaned during the reading process from certain contextual clues. To some extent this is true, but as the speakers at the symposium pointed out, the ambiguities of the English language are such that contextual clues are not always sufficient. This ambiguity is further compounded by polysemy, or "the many meaningness" of words (Twaddell, 1973, p. 65). Too often, they argued, contextual clues are simply misleading, that is, too often to permit the teaching of vocabulary to be based largely on such an approach. No doubt the drawbacks of teaching through context are apparent enough to those who teach

vocabulary skills, but to view that as counterproductive is a new twist. However, the argument now is that external context strategies are more ineffective than they are helpful. Laufer and Sim, in particular, have done an indepth study of contextual guessing errors. Pressley, Levin, and McDaniel (1987) have also researched the problems of learning vocabulary through context.

This is not to say that teaching lexical items through context should be discontinued, but in order to do it right, i.e., in order for correct comprehension of word meaning to occur, certain cues and conditions must be present in the text. These have been outlined by Sterberg and Powell and include the "number of occurrences" of a new word in context and the "variability of the contexts," that is, the number of times the word appears in the text and the number of ways in which the word is presented. Relevant cues must also be present. They are those which neither cause misinterpretations of the text nor offer extraneous information. Once the reader has determined which cues are appropriate, her suppositions will be supported (or negated) by the reinforcement of another cue or cues coming soon after the first inference. Another condition which should be met is an absence of "density of unknown words." If there are a large number of difficult words, the definitions or cues of which are bound inextricably, then the reader is less likely to spend much time and energy deciphering the passage. This is true because the process of extracting meaning from context is not an automatic one. That is to say, learning from context is a conscious process whereby the reader's attention must be diverted from the overall meaning of the passage in order to focus on the problematic word or words. And finally there must exist the condition

of "prior knowledge." Unfamiliar words that relate to concepts outside the reader's frame of knowledge will be difficult or impossible to infer even with sufficient contextual cues because the concepts are neither a part of the reader's world view nor synonymous with anything in her existing lexicon (Jenkins and Dixon, 1983). pp. 249-51

Provided these conditions can be met, there are yet other considerations in reviewing the effectiveness of learning through context. Reading is, itself, as Goodman pointed out, a psycholinguistic "guessing" process, but reading in a foreign language provides its own set of problems.

As Yorio (1971, p. 108) has stated, certain factors must be considered in regard to reading in a foreign language.

(1) The reader's knowledge of the foreign language is not like that of the native speaker.

(2) The guessing or predicting ability necessary to pick up the correct cues is hindered by the imperfect knowledge of the language.

(3) The wrong choice of cues or the uncertainty of the choice makes associations more difficult.

(4) The memory span in a foreign language in the early stages of its acquisition is usually shorter.

(5) At all levels, and at all times, there is interference of the native language.

And, as if these problems were not sufficient to cloud the validity of the idea of total learning through context, the foreign language learner has the added burden of what Yorio refers to as phonological interference. In his survey (1971) he discovered that all students questioned about reading silently admitted to stopping when they came to a word they weren't able to pronounce. Phonetic interference means that during the reading process the reader has to move from the surface structure (the printed page) to the deep

structure to get the meaning and then must encode again to get yet another form of surface structure (sound).

The question becomes one of how to replace the tarnished technique of teaching through context, of how to expand the student's lexicons to approximate native speakers'. The task of teaching vocabulary is enormous--and depressing--judging from statistics: An American university student has a passive vocabulary of about 60,000 lexical units, or 150,000 words. A foreign student would have to learn--without forgetting--40 lexical units a day, everyday for over four years to even begin to have the lexical range of a native speaker (Crow and Quigley, 1985). p. 498

Old habits die hard, and there are those who would argue that actual improvement in student vocabulary knowledge has been made through contextual learning strategies. The key here is that there is a difference between acquiring knowledge of a word's meaning and knowing the word well enough to aid comprehension of the text. Even given that comprehension of the text is achieved by inference, by way of contextual strategies, the problem is that the vocabulary encountered in that particular reading has not been learned--it has been understood in the context of that reading passage--but those same words, if presented to the student out of context, may not register. So learning through context, by strictest definition, isn't really learning at all. The meaning of the words has not been processed or retained. Most of the words under study won't even find their way into the student's passive lexicon.

Again, how can the origins and growth of vocabulary knowledge be explained? Studies now indicate that many words are learned

incidentally, in spite of context. The student, when faced with a vocabulary learning task, and knowing what she is required to produce at task's end, will process the material in a manner which she finds to be the simplest for her. In so doing, she develops her own strategy for completing a task, and what she learns will be more valuable to her long term since she has worked out her own learning strategy. In this way, incidental learning becomes superior to the intended learning condition of the task. Thus, the operations performed on the material, not the intention to learn, determine retention. This has proven true most often in tasks that required processing on a semantic rather than non-semantic level.

In conjunction with the theory of incidental learning, and actually expanding that theory and placing it in a broader perspective is the notion of depth of processing, as presented by Craik and Tulving (1975), pp. 268-70. This notion is a conception of a series of processing stages in which "depth" refers to the degree of semantic or cognitive analysis performed on a word or words by the learner, and the degree to which, as a result, that lexical item will be retained. The key word here is "retained" as opposed to "understood." Vocabulary which is "learned" through context may be understood and forgotten after the reading task. On the other hand, vocabulary items which are given full attention, are completely analyzed, and are encoded with associations or images, will be more deeply processed or encoded and will thus be longer lasting memory traces, i.e., will be retained in a productive state for a longer time. In addition, Craik and Tulving have discovered that the degree of stimulus elaboration (i.e., how thoroughly the vocabulary item is analyzed and encoded) is the deciding factor in retention of vocabulary. Thus the cue information must be congruous with the items

for retention and as descriptive as possible in order to insure a deeper level of processing. To repeat, the deeper the semantic features of the item, the more elaborate the trace. This study and others like it, the authors claim, indicate that items to be learned are "components of mental activity" (making use of the cognitive code) rather than stimuli acting on the learner (the audio-lingual method being a good example). Further, these studies indicate that students do not learn best simply when given instructions on how to learn but rather when they perform "self-initiated encoding operations" on the material to be learned, that is, when they employ their own learning strategies.

Among the pedagogical implications of the idea of depth of processing and its emphasis on the importance of semantic stimuli in vocabulary learning is that students should probably be encouraged to develop their own individual learning strategies, strategies which would allow them not only to process new information but also to retain and retrieve it. Some attempts have been made to find mnemonic devices for student use which would tap into that deeper processing of material. Among the most promising is the keyword method, which derives its name from the concept of semantic field, here defined by Mackey:

> [The semantic field is] made of basic key-words which command an army of others. The semantic area may be regarded as a network of hundreds of associations, each word of which is capable of being the center of a web of associations radiating in all directions. A word like men might have as many as fifty such associations--chap, fellow, guy, gentlemen, etc. (Crew and Quigley, 1985, 499-500).

In fact, learning theorists who study memory and recall have proven

that data that are organized into logical semantic categories, as would that in the keyword method, are more readily recalled than that learned through contextual means.

The keyword method is a mnemonic device for learning vocabulary definitions. For example, a picture of two ladies in a store is presented. One points and says, "Martha, you should buy that purse." The other replies, "I think you can persuade me to buy it." Under the picture is written: "Persuade (Purse)--when you talk someone into doing something" (Jenkins and Dixon, 1983, 242). The majority of research on the potential of the keyword method has proven it to be superior to other vocabulary-learning methods and has gained it high marks among reading researchers. Further, this method can be adapted to all school age levels and is just as appropriate for learning vocabulary of one's native language as it is for learning a foreign language (Pressley and Miller, 1982). p. 59

Now, to practically apply this theory of depth of processing, what would a teacher change or omit from her normal approach to the teaching of vocabulary? The first thing to go would be the vocabulary lists or booklets kept on hand, like journals. Too often what happens is that the student, upon seeing a word from her list later, remembers only that she had written it down in her notebook. She may not be able to recall the meaning. Sometimes, after repeated exposure to the word, its meaning may be retained. To give up lists, then, is to surrender those words which have no common theme--those that deal in arbitrary words thrown together in random order. The semantic field approach to keeping a notebook would work. If words could be placed by category, according to semantic features, then their just being recorded would be helping the student to categorize and understand on a cognitively

deeper level. The teacher could choose the categories: animal, vegetable, mineral, person, place, adverb, intensifier, male, female, anatomy, psychology....The placement of the word in the proper place in the notebook would require extra time and thought, and therefore, extra processing at a deeper level of understanding.

Other vocabulary teaching techniques might need modifying. For example, the teaching of prefixes, suffixes, and stems used to be taught by rote, but memorization, like reading, is a conscious process that removes the items to be learned from immediate relevancy. For instance, if a student is reading along and comes across an unfamiliar word consisting of known stems and endings, then she must disengage from the reading process, sort through her mental file, and come up with a suitable conjecture as to the word's meaning. If, on the other hand, those stems and affixes are more deeply processed, if there are sufficient associations and an almost instinctive understanding of them, then the reading process may not be so severely interrupted.

Learning long definitions for words would also seem counterproductive. To learn a synonym, or even a visual image, would jog the memory more effectively. That is, supposedly, the advantage of using the keyword method mentioned earlier. It is a sort of acoustic and visual mnemonic device.

There is a variety of techniques, or at least exercises, for teaching vocabulary items. What is being suggested is that those which are most forced, those which introduce words in an unnatural, isolated setting, offer the fewest chances of the student's developing an <u>understanding</u> of the words. Vocabulary texts, per se, are probably not, ultimately, a good idea either because they most often deal in

matching and filling in the blanks and generally manipulating words outside of a context, thus, not allowing for an associational understanding of their meaning in relation to a topic. Very often a word will be retained because of its association with a topic, and those associations are very personal and individual, brought about by different stimuli.

Also, it wouldn't be a good idea to give lists of vocabulary items when teaching literature. Maybe it is helpful for the teacher to pick out words she thinks the students will have trouble with, but simply listing those words and defining them will just distract. In addition, creating elaborate exercises based on the words from a particular short story or reading is helpful but too time consuming. Herewith a personal example: I teach American short stories in my freshman composition class, and my attitude is that only those few pivotal words whose meanings are essential to the understanding of the plot are those to be reckoned with. With that in mind, I type up a vocabulary sheet and study questions for consideration. Instead of taking the words to be noted out of context, I type the entire sentence, or more, and underline the word. Then I type an explanation of that word as it relates to the meaning of that sentence and to the substance of the plot or theme. I find that because I have given the students significant quotes from the story, they usually write their essays using those same quotes to substantiate their own claims and, thus, there is reinforcement of those words, and, in turn, those words are usually retained and employed in later essays.

To conclude, since everyone free associates differently and is prompted by different stimuli to recall and retain things, it might be profitable for teachers to ask their students to make a more conscious

effort to identify what learning strategies work for them individually and to try to work that into their classroom procedure. Above all, it might be wise for educators to keep in mind that the ultimate goal in vocabulary acquisition ought to be at least recognition of the words and at best their retention. Students should make use of the rich complexities of their own cognitive skills.

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